

## PubMed

U.S. National Library of Medicine  
National Institutes of Health

Display Settings: Abstract

Crit Care Med. 2004 Mar;32(3):708-13.

### **Alcoholic povidone-iodine to prevent central venous catheter colonization: A randomized unit-crossover study.**

Parienti JJ, du Cheyron D, Ramakers M, Malbruny B, Leclercq R, Le Coutour X, Charbonneau P; Members of the NACRE Study Group.

Departments of Medical Intensive Care Unit, Côte de Nacre University Hospital, Caen, France. pariente-jj@chu-caen.fr

Comment in:

Crit Care Med. 2004 Mar;32(3):887-8.

**OBJECTIVE:** To compare effectiveness in preventing central venous catheter colonization and infection of two protocols of cutaneous antisepsis using povidone-iodine solution in combination with ethanol or water. **DESIGN:** Randomized trial. **SETTING:** Medical intensive care department in a university hospital. **PATIENTS:** Consecutive patients requiring central venous catheter in two similar 11-bed units from January 1, 2001, to January 1, 2002. **INTERVENTIONS:** Alcoholic povidone-iodine solution protocol was randomly assigned to one of two units when the study began. Every 3 months the alcoholic protocol was switched from one unit to the other. Depending on the unit and the time the patient was admitted, catheters were inserted and cared for with 10% aqueous povidone-iodine solution or 5% povidone-iodine solution 70% ethanol-based combination. **MEASUREMENTS AND MAIN RESULTS:** Rates of catheter colonization, catheter-related bacteremia, and catheter-related infection were compared in the two protocols; 223 catheters were included in an intent-to-treat analysis. The incidence of catheter colonization was significantly lower in the alcoholic povidone-iodine solution protocol than in the aqueous povidone-iodine solution protocol (relative risk, 0.38; 95% confidence interval, 0.22-0.65,  $p < .001$ ), and so was the incidence of catheter-related infection (relative risk, 0.34; 95% confidence interval, 0.13-0.91,  $p < .04$ ). Catheter-related bacteremia were similar in both protocols. After adjusting for other risk factors, time to central venous catheter colonization was significantly longer in the alcoholic solution (adjusted hazards ratio, 0.3; 95% confidence interval, 0.2-0.6,  $p < .001$ ). Based on a subgroup of 114 patients (57 in each protocol), analysis of 57 pairs of central venous catheters matched for age, duration, and site of insertion found similar results regarding the superiority of alcoholic povidone-iodine solution in preventing central venous catheter colonization and infection. **CONCLUSIONS:** The use of alcoholic povidone-iodine for skin disinfection reduced the incidence of catheter colonization and related infection compared with aqueous 10% povidone-iodine disinfection in an adult intensive care unit.

PMID: 15090951 [PubMed - indexed for MEDLINE]

Publication Types, MeSH Terms, Substances

LinkOut - more resources